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ABSTRACT

Written for teachers, this paper reviews basic concepts and issues relating to the topic of student motivation in the classroom and suggests strategies for teachers to use in motivating their students. The paper identifies four essential preconditions that must be in place if teachers are to motivate effectively and then provides descriptions and examples of four sets of motivational strategies: strategies for maintaining students' success expectations, strategies for supplying extrinsic motivation, strategies for capitalizing on existing intrinsic motivation, and strategies for stimulating student motivation to learn the knowledge or skills that academic activities are designed to develop. The last set of strategies is given special emphasis because these strategies have been relatively neglected in writings on motivation in the classroom, even though these are the only strategies that will directly stimulate the type of high-quality engagement in academic content that is the heart of students' motivation to learn. The examples are drawn mostly from junior high social studies classes, although the principles apply to all grade levels and subject matter areas. (A six-page reference list concludes the document.) (Author)

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ON MOTIVATING STUDENTS

Jere Brophy

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Jere Brophy

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Abstract

Written for teachers, this paper reviews basic concepts and issues relating to the topic of student motivation in the classroom and suggests strategies for teachers to use in motivating their students. The paper identifies four essential preconditions that must be in place if teachers are to motivate effectively and then provides descriptions and examples of four sets of motivational strategies: strategies for maintaining students' success expectations, strategies for supplying extrinsic motivation, strategies for capitalizing on existing intrinsic motivation, and strategies for stimulating student motivation to learn the knowledge or skills that academic activities are designed to develop. The last set of strategies is given special emphasis because these strategies have been relatively neglected in writings on motivation in the classroom, even though these are the only strategies that will directly stimulate the type of high-quality engagement in academic content that is the heart of students' motivation to learn. The examples are drawn mostly from junior high social studies classes, although the principles apply to all grade levels and subject matter areas.

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ON MOTIVATING STUDENTS

Jere Brophy[1]

Introduction

"I don't know what it means, but I did it."

This is what a first grader was heard to say to himself as he finished a worksheet (Anderson, Brubaker, Alleman-Brooks, & Duffy, 1984, p. 20). Unusual only in that it was verbalized spontaneously, this remark typifies a problem observed frequently by Anderson et al. (1984) in their research observing first-grade students working on seatwork assignments and then interviewing them about what they did, why they did it, and how they did it. The data indicated that many students (especially low achievers) did not understand how to do the assignments. Rather than ask the teacher or get help in other ways, however, these students often were content to respond randomly or to rely on response sets (such as alternating or using geometrical patterns for circling multiple choice answers or picking one from a list of new words to fill the blank in a sentence without reading the sentence itself). Low achievers in particular tended to be more concerned about finishing their assignments than about understanding the content they were supposed to be learning.

High achievers completed most assignments successfully and showed less concern about getting finished on time, but even they showed little evidence of understanding the content-related purposes of the assignments. No student consistently explained assignments in terms of the curricular content.

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Instead, most responses were vague generalities (e.g., "It's just our work" or "We learn to read"). In general, assignments were virtually meaningless rituals for many of the low achievers in these first-grade classes, and even the high achievers seemed only dimly aware of the purposes of the assignments or the skills they were practicing as they carried them out.

Such findings are not unusual. Rohrkemper and Bershon (1984) interviewed elementary-school students about what was on their minds when they worked on assignments. They found that of 49 students who gave codable responses, two were concerned only about getting finished, 45 were concerned about getting the answers correct, but only two mentioned trying to understand what was being taught. Corno and Mandinach (1983) and Blumenfeld, Hamilton, Bossert, Wessels, and Meece (1983) have also expressed concern about the low quality of students' engagement in classroom activities. Doyle (1983) suggests that most students are preoccupied with meeting requirements and getting acceptable grades rather than with learning what they are supposed to be learning, to the point that they will avoid asking questions or seeking to probe more deeply into the content because they want to stick with safe, familiar routines. Other research (Brophy, Rohrkemper, Rashid, & Goldberger, 1983; Harter, 1981; Lepper, 1983) suggests that students begin school with enthusiasm but gradually settle into a dull routine in which interest centers on minimizing the ambiguity (about precisely what must be done) and risk (of failure) involved in meeting teachers' demands rather than on learning what is being taught.

Given the nature of schooling, these student attitudes are understandable, at least to a degree. First, though schools are set up to

benefit students (as well as society at large, of course), compulsory attendance and graded performance tend to focus students' attention on the problem of meeting externally imposed demands rather than on the personal benefits that they might derive from the experience. Second, teachers confronted with classes of 20 to 40 students cannot meet each individual students' needs optimally, so that many students will frequently be bored and many others will frequently be confused or frustrated. Third, classrooms are public settings, so that failure often means not only personal disappointment but public embarrassment before the peer group. Finally, even in classrooms where fear of failure, test anxiety, and concern about avoiding ambiguity and risk are minimized, both teachers and students can easily settle into familiar routines as the school year progresses, to the point that these routines become "the daily grind"; that is, classroom activities designed as means tend to become ends in themselves, with attention focused on what must be done to complete the activities rather than on the knowledge or skills that the activities were designed to teach.

The last factor leads to the main point of this paper: Even though we can expect students to be concerned about meeting requirements and earning acceptable grades, it is also reasonable to expect students to be aware and appreciative of the educational objectives of classroom activities and the potential of these activities for promoting personal growth and enhancing the quality of life, <u>if teachers consistently draw attention to these objectives and potentials</u>. Unfortunately, classroom research suggests that few teachers do this systematically.

Anderson et al. (1984) found that teachers' presentations of assignments to their students typically included procedural directions or special hints

(e.g., pay attention to the underlined words), but seldom called attention to the purposes and meanings of the assignments. Only ~~five percent~~ 5% of the teachers' presentations explicitly described the purpose of the assignment in terms of the content being taught, and only 1.5 ~~percent~~ % included explicit descriptions of the cognitive strategies to be used when doing the assignment.

Brophy et al. (1983) reported similar results from their study of six intermediate grades (4-6) classrooms observed 8-15 times during reading and mathematics instruction. During these observations, not one of the six teachers ever mentioned that students could derive personal satisfaction from developing their knowledge or skills. Only about a third of the teachers' task introduction statements included comments judged likely to have positive effects on student motivation, and most of these were brief general predictions that students would enjoy the task or do well on it.

Out of approximately 100 hours of classroom observation, only nine task introductions were noted that included substantive information about motivation to learn the content or skills that the task was designed to develop:

> These are not elementary, high school, or college level words; these are living level words. You'll use them every day in life. If you plan to be a writer or enjoy reading, you will need these words.
>
> Remember: The essential thing is to do them correctly, not to be the first to finish.
>
> I think you will like this book. Someone picked it out for me, and it's really good.
>
> This is really a strange story. It's written in the first person, so that the person talking is the one who wrote the story about his experience. It has some pretty interesting words in it. They are on the board.
>
> The stories in this book are more interesting than the ones in the earlier level books. They are more challenging

because the stories and vocabulary are more difficult. Reading improves with practice, just like basketball. If you never shoot baskets except when you are in the game, you are not going to be very good. Same with reading. You can't do without it.

Answer the comprehension questions with complete sentences. All these stories are very interesting. You'll enjoy them.

You girls should like this story because it is a feminist story. You boys will enjoy yours too. Your story is especially interesting. I want you to be sure to read it. It's a mystery, and you'll enjoy it.

Percent is very important. Banks use it for interest loans, and so on. So it is important that you pay attention.

You're going to need to know fractions for math next year. You will need fractions in the world to come.

Notice how minimal and essentially barren most of these remarks are. They do not go into enough details to be meaningful or memorable for most students, and many of them have a perfunctory quality suggesting that the teacher was going through the motions without much enthusiasm or conviction. Furthermore, whatever positive effect these remarks may have had was probably undercut by the facts that (a) most of the teachers' remarks to the students concerned procedural demands and evaluations of work quality or progress rather than description of the task itself or what the students might get out of it; and (b) many of the rest included remarks such as the following:

Today's lesson is nothing new if you've been here.

If you get done by 10 o'clock, you can go outside.

Your scores will tell me whether we need to stay with multiplication for another week. If you are talking, I will deduct 10 points from your scores.

This penmanship assignment means that sometimes in life you just can't do what you want to do. The next time you have something you don't want to do, just think "Well, that's part of life."

Get your nose in the book; otherwise I'll give you a writing assignment.

You don't expect me to give you baby work every day, do you?

You've been working real hard today, so let's stop early.

You'll have to work real quietly, otherwise you'll have to do more assignments.

My talkers are going to get a third page to do during lunch.

We don't have a huge amount to do, but it will be time consuming.

This test is to see who the really smart ones are.

Such findings appear to be typical, although not universal. Our own subsequent research conducted in junior high social studies classes has identified several teachers who routinely say and do things that appear likely to motivate their students to be aware of and to want to gain the knowledge and skill benefits that classroom activities are designed to develop, teachers who avoid potentially destructive comments of the kind listed above. Marshall (1986) has also identified a few such teachers working at the elementary grades. In general, however, it appears that most teachers, even those who are effective in other respects, do not systematically say and do things likely to stimulate their students' motivation to learn academic content and skills. In my attempts to discover why this is so, I have concluded that it is because most teachers have not received much systematic information about strategies for motivating students to learn, and much of the information that they have received is limited or distorted.

Much of the advice given to teachers about motivation stems from either of two contradictory yet frequently expressed views that are both incorrect, at least in their extreme form. The first view is that learning should be fun and that when classroom motivation problems appear it is because the teacher

somehow has converted an inherently enjoyable activity into drudgery. I believe that students should find academic activities meaningful and worthwhile, but not that they typically should find such activities to be "fun" in the same sense that recreational games and pastimes are fun. The other extreme view is that school activities are necessarily boring, unrewarding, and even aversive, so that one must rely on extrinsic rewards and punishments in order to force students to engage in these unpleasant tasks. I believe that although extrinsic incentives have their place in the classroom, they should be one among several sets of factors influencing student motivation, not the only set. With proper instruction and socialization from teachers, students should find academic activities meaningful and worthwhile for several reasons including intrinsic motivation and self-actualization, not just because successful performance will earn extrinsic rewards.

Recent theory and research on student motivation has led educators to reject both of these extreme views in favor of a more balanced and sophisticated approach and has suggested a rich range of motivational strategies. This paper presents a list of such strategies developed from review and integration of this research literature, with emphasis on strategies for motivating students to desire to learn the academic content and skills that classroom activities were designed to develop. For more information about motivation in the classroom, see Ames and Ames (1984, 1985), Brophy (1983), Corno and Mandinach (1983), Corno and Rohrkemper (1985), Deci and Ryan (1985), Good and Brophy (1986, in press), Keller (1983), Kolesnik (1978) Lepper and Greene (1978) Maehr (1984), Malone and Lepper (in press), McCombs (1984), Nicholls (1984), and Wlodkowski (1978).

Basic Motivational Concepts

To place the subsequent discussion of teachers' strategies for motivating students into context, several basic motivational concepts will be introduced. These include a definition of the concept of student motivation to learn and a discussion of the expectancy x value theory of motivation that underlies and organizes the present approach to the topic.

Definition of Motivation to Learn

Student motivation to learn is construed as a student tendency to find academic activities meaningful and worthwhile, and to try to get the intended academic benefits from them. Motivation to learn can be construed both as a general trait and as a situation-specific state. As a general trait, motivation to learn refers to an enduring disposition to strive for knowledge and mastery in learning situations. This trait is most characteristic of individuals who find learning intrinsically rewarding--who value it as a worthwhile and satisfying activity and enjoy expanding their knowledge of information, increasing their understanding of concepts of processes, or mastering skills. However, similar levels of effort and persistence in learning situations may also be seen in individuals who are motivated by a sense of duty (if you are going to have to put in the time on something anyway, you may as well do your best and get the most from the experience).

In specific situations, a state of motivation to learn exists when the student engagement in an academic activity is guided by the goal or intention of acquiring the knowledge or mastering the skill that the activity is designed to teach. In classrooms, students reveal motivation to learn when they try to master the information, concepts, or skills being taught as they attend to lessons, read text, or work on assignments. Whether or not they

find a particular activity interesting or enjoyable, students who are motivated to learn will try to get the intended benefits from the activity by striving to make sure that they understand and will remember what they are supposed to be learning. In contrast, students who are not motivated to learn will do only as much as they believe they will need to do in order to meet performance standards that will ensure access to reward or avoidance of punishment.

Implied in this definition of student motivation to learn is a basic distinction between learning and performance: Learning refers to the information processing, sense making, and comprehension or mastery advances that occur during the acquisition of knowledge or skill; performance refers to the demonstration of such knowledge or skill after it has been acquired. Many approaches to the study of the relationships between motivation and behavior ignore this distinction or deal only with performance. Such approaches are inappropriate for studying student motivation to learn, however, because of the heavily cognitive nature of classroom learning. With a few exceptions, such as penmanship or zoology dissection skills, school learning is primarily covert and conceptual rather than overt and behavioral. Thus, the term "motivation to learn" refers primarily to the motivation underlying these covert processes that occur during learning rather than to the motivation that drives later performance. Similarly, the motivational strategies to be described apply not only to performance (work on tests or assignments), but also to the information-processing activities (attending to lessons, reading for understanding, comprehending instructions, putting things into one's own words) that are involved in learning content or skills in the first place. The emphasis here is on stimulating students to use thoughtful and effective

information-processing and skill-building strategies when they are learning. This is distinctly different from merely offering them incentives for good performance later.

A related implication is that the concept of student motivation to learn emphasizes the cognitive aspects of student motivation, not just the affective (emotional) aspects. The emphasis is not so much on whether students enjoy an activity as on whether they take it seriously and try to get the intended benefits from it. Similarly, the emphasis is not on the intensity of physical effort devoted to an activity or the time spent on it, but on the quality of students' cognitive engagement in the activity--the degree to which they approach the activity purposefully and respond to it thoughtfully. Being motivated to learn implies such high-quality cognitive engagement in the activity, not mere enjoyment of the activity.

Expectancy x Value Theory

Most approaches to motivation, including the present one, fit within general social learning theory and in particular within expectancy x value theory (Feather, 1982). This theory posits that the effort that people will be willing to expend on a task will be a product of (a) the degree to which they expect to be able to perform the task successfully if they apply themselves (and thus the degree to which they expect to get the rewards that successful task performance will bring) and (b) the degree to which they value those rewards. Effort investment is viewed as the product rather than the sum of the expectancy and value factors because it is assumed that no effort at all will be invested in a task if either factor is missing entirely, no matter how much of the other factor may be present. People do not invest effort on tasks that do not lead to valued outcomes even if they know that

they can perform the task successfully, and they do not invest effort on even highly valued tasks if they are convinced that they cannot succeed on these tasks no matter how hard they try.

Expectancy x value theories of motivation imply that, in order to motivate their students to learn, teachers need to both help their students appreciate the value of academic activities and make sure that the students can achieve success on these activities if they apply reasonable effort. The rest of this paper is organized according to these expectancy x value theory ideas. The paper will first discuss some basic preconditions that must be present if teachers are to be successful in motivating their students, then discuss strategies that involve establishing and maintaining success expectations in the students, and finally describe strategies designed to enhance the subjective value that students place on school tasks. The latter strategies are subdivided into strategies that involve extrinsic incentives, strategies that involve taking advantage of existing intrinsic motivation, and strategies that involve stimulating student motivation to learn.

Essential Preconditions

The following assumptions and preconditions underlie the effective use of the motivational strategies to be described. The strategies cannot work effectively if these assumptions and preconditions are not in effect.

Supportive Environment

Anxious or alienated students are unlikely to develop motivation to learn academic content. Nor is such motivation likely to develop in a chaotic classroom. Thus, we assume that (a) the teacher is a patient, encouraging person who makes students feel comfortable during academic activities and

supports their learning efforts and (b) the teacher uses classroom organization and management skills that successfully establish the classroom as an effective learning environment. The classroom atmosphere is businesslike but relaxed and supportive. Students feel comfortable taking intellectual risks because they know that the teacher will not embarrass or criticize them if they make a mistake.

Appropriate Level of Challenge/Difficulty

Activities must be of an appropriate difficulty level for the students. If the task is so familiar or easy that it constitutes nothing more than busy work, and especially if it is so unfamiliar or difficult that the students cannot succeed on it even if they apply reasonable effort, no strategies to induce student motivation to learn are likely to succeed. Tasks are of appropriate difficulty level when students are clear enough about what to do and how to do it so that they can achieve high levels of success if they apply reasonable effort. When students encounter such tasks routinely, they will expect to succeed at them and thus will be able to concentrate on learning the tasks without becoming anxious or worrying about failure.

Meaningful Learning Objectives

We cannot expect students to be motivated to learn if we present them with pointless or meaningless activities. Therefore, we assume that activities have been selected with worthwhile academic objectives in mind. That is, they teach some knowledge or skill that is worth learning, either in its own right or as a step toward some larger objective. The following activities will not meet this criterion: continued practice on skills already mastered thoroughly, memorizing lists for no good reason, looking up and

copying definitions of terms that are never used meaningfully in readings or assignments, reading vague or sketchy prose that is long on isolated facts but short on integrative concepts and sufficient detail to allow the students to develop a concrete and visualizable understanding of the content, reading about things that are completely foreign to their experience or described in such technical or abstract language as to make the material essentially meaningless, and working on tasks assigned merely to fill time rather than to attain some worthwhile instructional objective.

Moderation/Optimal Use

We assume that there is an optimal level for effective use of each motivational strategy. Strategies used too often or too routinely may losetheir effectiveness, and any particular use of a strategy can become counterproductive if it goes on too long or gets carried to extremes. Also, different activities will call for different numbers and kinds of motivational strategies. Where content is relatively unfamiliar and its value or meaningfulness is not obvious to students, significant motivational effort involving several of the strategies described in this paper may be needed. In contrast, little or no special motivational effort may be needed when the task involves something that students are already eager to learn.

With these four preconditions in mind, let us consider the motivational strategies that various writers have suggested. We begin with strategies that address the expectancy factor (within the larger expectancy x value theory approach).

Motivating by Maintaining Success Expectations

Much of the best known research on motivation has focused on the role of success expectations in determining performance. Research on achievement

motivation (Dweck & Elliott, 1983) has established that effort and persistence are greater in individuals who set goals of moderate difficulty level (neither too hard nor too easy), who seriously commit themselves to pursuing these goals rather than treat them as mere pie-in-the-sky hopes, and who concentrate on trying to achieve success rather than on trying to avoid failure. Research on efficacy perceptions (Bandura, 1982; Bandura & Schunk, 1981; Schunk, 1985; Schunk & Hanson, 1985; Weisz & Cameron, 1985) has shown that effort and persistence are greater in individuals who not only perceive that successful performance of a task will lead to a reward but also perceive that they themselves are capable of performing the task successfully and thus earning the reward. Such individuals perceive that they have enough competence or efficacy to enable them to succeed. Research on causal attributions for performance suggests that effort and persistence are greater in individuals who attribute their performance to internal and controllable causes rather than to external or uncontrollable causes (Weiner, 1979, 1984). In particular, better performance is associated with a tendency to attribute success to a combination of sufficient ability with reasonable effort and a tendency to attribute failure either to insufficient effort (if this has been the case) or to confusion about what to do or reliance on an inappropriate strategy for trying to do it (Butkowski & Willows, 1980; Frieze, Francis, & Hanusa, 1983; Whitley & Frieze, 1985). Poor performance is associated with a tendency to deny or minimize success (by attributing it to internal and uncontrollable factors--a lack of ability to perform the type of task in question--rather than to controllable factors that one can do something about).

Several strategies have been suggested for helping students to maintain expectations for success and the various desirable goal-setting behaviors, efficacy perceptions, and causal attributions that are associated with such success expectations. All of these strategies assume that students are given tasks of appropriate difficulty level and receive timely and informative feedback that is specific about the correctness of their responses and about the progress they are making toward ultimate objectives. In short, these strategies involve helping students to make and recognize genuine progress, rather than misleading them or offering them only empty reassurances.

Program for Success

The simplest way to ensure that students expect success is to make sure that they achieve success consistently by beginning at their level, moving in small steps, and preparing them sufficiently for each new step so that they can adjust to it without much confusion or frustration. Two points need to be made about this strategy to insure that it is not understood as suggesting that teachers should mostly assign unchallenging busy work.

First, we speak here of success achieved through reasonable effort that leads to gradual mastery of appropriately challenging objectives, not to quick, easy success achieved through "automatic" application of overlearned skills to overly familiar tasks. It is true that certain basic knowledge and skills must be practiced until mastered to a level of smooth, errorless performance, but it is also true that students should be paced through the curriculum as briskly as they can progress without undue frustration. Thus, programming for success must be seen as a means toward the end of maximizing students' achievement progress, and not as an end in itself.

Second, keep in mind the role of the teacher. Levels of success that students can achieve on a particular task depend not only on the difficulty of the task itself, but on the degree to which the teacher prepares them for the task through advance instruction and assists their learning efforts through guidance and feedback. A task that would be too difficult for the students if they were left to their own devices might be just right when learned through active instruction by the teacher, followed by supervised practice. In short, your help in making sure that students know what to do and how to do it is an important factor in determining whether students will succeed in classroom tasks.

It can be difficult to program low achievers for success, especially in heterogeneous classrooms. You can help by providing extra instruction and assistance to slower students and by monitoring their progress more frequently. Give them briefer or easier assignments if they cannot succeed even with extra help and support, but continue to demand that they put forth reasonable effort and progress as briskly as their abilities will allow. If necessary, divide the class into subgroups that receive differentiated instruction and assignments, and grade according to Mastery Learning procedures that do not penalize slower students for the extra time that they take to achieve mastery (Levine, 1985) or according to criteria specified in individualized performance contracts (see Good & Brophy, in press, concerning providing differentiated instruction in heterogeneous classrooms).

Low achievers may need strong teacher statements of confidence in their abilities or willingness to accept slow progress (so long as the students consistently put forth reasonable effort), especially when grades must be assigned according to fixed common standards or comparisons with peers or

norms rather than according to degree of effort expended or degree of success achieved in meeting individually prescribed goals. You may need to help low achievers learn to take satisfaction in receiving Bs or even Cs when such grades represent successful performance based on reasonable effort from the students involved. For some low achievers, achieving a grade of C is an occasion for taking pride in a job well done. When this is the case, teachers should express to these students (and to the parents as well) their recognition of the accomplishment and their appreciation of the effort that it represents.

Regardless of the range of student ability or achievement levels represented in the class, conditions should be arranged so that every student who consistently puts forth reasonable effort can earn at least a grade of C. Where this is not the case, neither motivation nor achievement will be fostered effectively.

Goal Setting, Performance Appraisal, and Self-Reinforcement

Help your students to identify and use appropriate standards to judge their progress. This begins with goal setting. Research indicates that setting goals and making a commitment to try to reach these goals increase performance (Bandura & Schunk, 1981; Tollefson, Tracy, Johnsen, Farmer, & Buenning, 1984). Goal setting is especially effective (a) when the goals are proximal rather than distal (they refer to performance on a task to be attempted here and now, rather than to attainment of some ultimate goal in the distant future); (b) when they are specific (complete a page of math problems with no more than one error) rather than global (work carefully and do a good job); and (c) when they are challenging (difficult but reachable) rather than too easy or too hard.

For particular brief tasks or assignments, the appropriate goal is to meet the instructional objective. Teachers who state the objectives when introducing the activities help their students to be aware of the objectives and to use them as guides to their responses. If the objectives have been phrased in terms of specific, observable behaviors, students can use them as criteria for assessing their performance.

For more comprehensive assignments or tests, perfect performance will not be a realistic goal for many students. These students may need help in formulating challenging but reachable goals that represent what they can expect to achieve if they consistently put forth reasonable effort. In the case of a long series of activities that ulimately lead to some distal goal, it will be important to establish specific goals for each intervening activity and to make sure that students are aware of the linkages between each of these activities and achievement of the ultimate goal (Bandura & Schunk, 1981; Morgan, 1985).

Goal setting is not enough by itself; there must also be goal commitment. Students must take the goals seriously and must commit themselves to trying to reach them. It may be necessary to negotiate such goal setting with some students, or at least to provide them with guidance and to stimulate them to think about their performance potential. Where an ultimate or cumulative level of performance that would earn a grade of A is not a realistic goal, help students to identify and commit themselves to realistic goals that, if reached, would yield grades of B or C (rather than to verbalize unrealistically high goals that they are not really committed to). One way to do this is to provide a menu of potential goals (graduated in terms of the levels of effort that would be required to meet them and the grades or other rewards

that would be earned if success were achieved) and then ask students to commit themselves to particular goals and associated levels of effort. Another approach is to use performance contracting, in which students formally contract for a certain level of effort or performance in exchange for specified grades or rewards (Tollefson et al., 1984). Performance contracting can be time-consuming and may call more attention to the rewards than is desirable, but it has the advantages of ensuring active teacher-student negotiation about goal setting and formalizing students' commitment to goals.

Finally, students may need help in assessing progress toward established goals by using appropriate standards for judging levels of success. In particular, they may need to learn to compare their work with absolute standards (progress toward achieving an objectively specified level of success) or with their own previous performance levels (improvement over time) rather than to judge only by comparing their work with that of peers. You can help by providing accurate but encouraging feedback. That is, your feedback about specific responses must be accurate (errors must be labeled as such if they are to be recognized and corrected), but your more general evaluative comments should provide encouragement by noting levels of success achieved in meeting established goals or by judging accomplishments with reference to what is reasonable to expect (rather than with reference to absolute perfection or to the performance of peers). Where performance is unsatisfactory, provide remedial instruction and additional opportunities for improvement, along with continued encouragement that realistic goals will be achieved if the student continues to put forth reasonable effort.

Some students will need specific, detailed feedback concerning both the strengths and weaknesses of their performances (Elawar & Corno, 1985). These

students may have only vague appreciation of when and why they have done well or poorly, so they may need not only general evaluative feedback but concepts and terms that they can use to describe their performance and evaluate it with precision. This is especially true for compositions, research projects, laboratory experiments, and other complex activities that are evaluated using general qualitative criteria rather than by scoring answers to specific questions as correct or incorrect. Rather than just assigning letter grades, provide your students with detailed feedback about their performance in such activities (concerning compositions, for example, comment on the relevance, accuracy, and completeness of the content; the general organization and structuring of the content into a composition with a coherent, beginning, middle, and end; the sequencing of the content and subdivision into appropriate paragraphs, the structuring of paragraphs to feature main ideas, the variety and appropriateness of sentence structures and vocabulary for communicating the content, and the mechanics of grammar, spelling, and punctuation).

Students who have been working toward specific proximal goals and who have the necessary concepts and language with which to evaluate their performance accurately will be in positions to reinforce themselves for the success that they achieve. Many students will do this habitually, but others will need encouragement to check their work and take credit for their successes (that is, to attribute their successes to the fact that they had the ability and were willing to make the effort required to attain success). If necessary, you can focus students' attention on their progress more directly by comparing their current accomplishments with performance samples from earlier points or by having the students keep scrapbooks, graphs, or other records to document their progress.

Remedial Work With Discouraged Students

Some students with long histories of failure will tend to give up at the first sign of difficulty or frustration and will need more intensive and individualized motivational encouragement than that which will be sufficient for the rest of the class. These students are likely to benefit from the strategies used in Mastery Learning approaches: Program for success by giving them tasks that they should be able to handle, provide them not only with the usual group instruction but also with individualized tutoring as needed, and allow them to contract for particular levels of performance and to continue to study, practice, and take tests until that level of performance is achieved. By virtually guaranteeing success, this approach builds confidence and increases discouraged students' willingness to take the risks involved in committing themselves seriously to challenging goals (Grabe, 1985).

You can also help by working to improve these students' beliefs, attitudes, and expectations about learning. One way is to portray effort as investment rather than risk. Help discouraged students to appreciate that learning may take time and involve confusion or mistakes, but that persistence and careful work should eventually yield knowledge or skill mastery. Furthermore, such mastery not only represents success on the particular task involved, but "empowers" the students by arming them with knowledge or skills that will make them that much more capable of handling higher level tasks in the future. If they give up on tasks that they could master if they persisted, they cheat themselves out of such growth potential.

It also helps to portray skill development as incremental and domain-specific. Make sure that your students realize that their intellectual abilities are open to improvement, rather than fixed and limited, and that

they possess many such abilities rather than just a few. Usually, difficulties in learning particular tasks occur not because the student lacks ability or does not make an effort, but because the student lacks experience with the particular type of task involved. With patience, persistence, and help from the teacher, students can acquire the knowledge and skills specific to the domain that the task represents, and this domain-specific knowledge and skill development will enable them to succeed on that task and on others like it. In short, help discouraged students to realize that their success depends not only on general ability but also on possession and use of a great range of specific knowledge and strategies built up gradually through many experiences in each domain. Difficulty in learning mathematics does not necessarily imply difficulty in learning other subject matter areas, and even within mathematics, difficulty in learning to graph coordinates does not necessarily mean difficulty in learning to solve differential equations or understand geometric relationships. Even within a problem area (such as graphing coordinates), knowledge and skills can be built up gradually through mastery of each successive step toward the ultimate objectives, if the student persists in putting forth reasonable effort, accepts teacher help, and does not lose patience or give up whenever success is not achieved easily.

In this connection, it is helpful if you <u>focus on mastery</u> when monitoring the performance of discouraged students and giving them feedback. Stress the quality of students' task engagement and the degree to which they are making continuous progress rather than compare how they are doing with peers (McColskey & Leary, 1985). Treat errors as learning opportunities rather than as test failures: Errors should lead to remedial or additional instruction followed by additional practice opportunities. Make-up exams, credit for

effort, or extra credit assignments should be used to provide struggling students with opportunities to overcome initial failures through persistent effort.

Discouraged students may also benefit from attribution retraining (Craske, 1985; Dweck & Elliott, 1983; Fowler & Peterson, 1981; Medway & Venino, 1982). Attribution retraining involves modeling, socialization, and practice exercises designed to help students learn (a) to concentrate on doing the task at hand rather than to become distracted by fear of failure; (b) to cope with frustrations by retracing their steps to find their mistakes or by analyzing the problems to find other ways to approach them (rather than to give up), and (c) to attribute their failures to insufficient effort, lack of information, or reliance on ineffective strategies rather than to lack of ability. Rather than merely telling students about these things using third-person (lecture) language, or even by instructing or coaching them using second-person (direction-giving) language, you are likely to communicate these cognitive strategies for coping with academic tasks most successfully if you model them for students using first-person (thinking out loud) language--demonstrating how to do the task yourself while verbalizing the thinking ("self-talk") that guides your actions. Discouraged students are especially likely to benefit from modeling that includes verbalization of the self-talk involved in maintaining composure and focusing on developing solutions to the problem when confronted with frustration or failure (as opposed to modeling of smooth, successful performance that unfolds without confusion or difficulty). In other words, your modeling should not only convince discouraged students that you can do the task (they know that already, anyway), but should convince these students that they can do the task (because they already possess, or can

reasonably expect to learn, the necessary knowledge and skills). Such modeling demystifies the task for the students and arms them with coping strategies that they can use instead of giving up when they become confused or frustrated.

Finally, some students may suffer from severe test anxiety. These students may perform well enough in informal, pressure-free situations, but become highly anxious and perform considerably below their potential on tests or during any test-like situation in which they are aware of being monitored and evaluated. You can minimize such problems by avoiding time pressures unless they are truly central to the skill being taught, stressing the feedback functions rather than the evaluation or grading function of tests when discussing tests with students; portraying tests as opportunities to assess progress in developing knowledge or skills rather than as measures of ability; where appropriate, telling students that some problems are beyond their present achievement level so that they should not be concerned about missing them; giving pretests to accustom the students to "failure" and to provide base rates for comparison later when post-tests are administered; and teaching stress management skills and effective test-taking skills and attitudes (see Hill & Wigfield, 1984; McCombs, 1984; Plass & Hill, 1986).

Concluding Comments About Maintaining Students' Success Expectations

Bear in mind that the expectancy aspects of student motivation depend less on the degree of objective success that students achieve than on how they view their performance: What they see as possible for them to achieve with reasonable effort, whether they define this level of achievement as successful or not, and whether they attribute their performance to controllable factors (effort, learning effective strategies) or to uncontrollable factors (fixed

general ability, luck). Therefore, whatever their ability levels, the motivation levels of all students, even the most discouraged, are open to reshaping by their teachers. Empty reassurances or a few words of encouragement will not do the job, but a combination of appropriately challenging demands with systematic socialization designed to make the student see that success can be achieved with reasonable effort should be effective.

Strategies for Inducing Students to Value Academic Activities

The previous section of this paper focused on the expectancy factor within the expectancy x value approach to motivation. That section discusses strategies for helping students to develop and maintain the expectation that they can achieve success on school activities if they put forth reasonable effort. The remaining sections of the paper concern the value factor. They describe strategies for helping students to see good reasons for engaging in the activities in the first place--good enough reasons to motivate them to take the activities seriously and put forth the necessary efforts. These include strategies for supplying extrinsic motivation, strategies for capitalizing on existing intrinsic motivation, and strategies for stimulating student motivation to learn.

Strategies for Supplying Extrinsic Motivation

Strategies for supplying extrinsic motivation do not attempt to increase the value that students place on the task itself. Instead, they link successful task performance with delivery of consequences that the students do value. These consequences typically include grades, but they may also include (a) material rewards (money, prizes, trinkets, consumables); (b) activity rewards and special privileges (opportunity to play games, use special

equipment, or engage in self-selected activities); (c) symbolic rewards (honor rolls, hanging up good papers on the wall); (d) praise and social rewards; and (e) teacher rewards (opportunities to go places or do things with the teacher).

Offer Rewards or Incentives

Rewards will motivate students to put forth effort, especially if they are offered in advance as incentives for striving to reach specified levels of performance. However, rewards are more effective for stimulating intensity of effort than thoughtfulness or quality of performance, and they guide behavior more effectively when students must follow a familiar path to a clear goal than when they must discover or invent strategies for responding to a novel task. Therefore, rewards are better used with routine tasks than with novel ones, better with tasks intended to produce mastery of specific skills than with tasks designed to encourage incidental learning or discovery, and better with tasks for which speed of performance or quantity of output is of more concern than creativity, artistry, or craftsmanship. It is more appropriate, for example, to offer rewards as incentives for meeting performance standards on skills that require a great deal of drill and practice (arithmetic computation, typing, spelling) than it is for work on a major research or demonstration project.

It is helpful if rewards are delivered in ways that support attempts to develop student motivation to learn, so that students are encouraged to appreciate their developing knowledge and skills rather than simply think about the rewards. Guidelines for accomplishing this are given in Table 1. The guidelines are phrased in terms of delivery of verbal praise, but they apply to delivery of other types of reward as well.

Table 1. Guidelines for Effective Praise

Effective Praise	Ineffective Praise
1. Is delivered contingently	1. Is delivered randomly or unsystematically
2. Specifies the particulars of the accomplishment	2. Is restricted to global positive reactions
3. Shows spontaneity, variety, and other signs of credibility; suggests clear attention to the student's accomplishment	3. Shows a bland uniformity, which suggests a conditioned response made with minimal attention
4. Rewards attainment of specified performance criteria (which can include effort criteria, however)	4. Rewards mere participation, without consideration of performance processes or outcomes
5. Provides information to students about their competence or the value of their accomplishments	5. Provides no information at all or gives students information about their status
6. Orients students towards better appreciation of their own task-related behavior and thinking about problem solving	6. Orients students toward comparing themselves with others and thinking about competing
7. Uses students' own prior accomplishments as the context for describing present accomplishments	7. Uses the accomplishments of peers as the context for describing students' present accomplishments
8. Is given in recognition of noteworthy effort or success at difficult (for *this* student) tasks	8. Is given without regard to the effort expended or the meaning of the accomplishment (for *this* student)
9. Attributes success to effort and ability, implying that similar successes can be expected in the future	9. Attributes success to ability alone or to external factors such as luck or easy task
10. Fosters endogenous attributions (students believe that they expend effort on the task because they enjoy the task and/or want to develop task-relevant skills)	10. Fosters exogenous attributions (students believe that they expend effort on the task for external reasons—to please the teacher, win a competition or reward, etc.)
11. Focuses students' attention on their own task-relevant behavior	11. Focuses students' attention on the teacher as an external authority figure who is manipulating them
12. Fosters appreciation of and desirable attributions about task relevant behavior after the process is completed	12. Intrudes into the ongoing process, distracting attention from task relevant behavior

Note: From "Teacher Praise: A Functional Analysis" by J. Brophy (1981), Review of Educational Research, 51, pp. 5-32. Copyright 1981 by American Educational Research Association, Washington, D.C. Reprinted with permission.

Rewards will be effective as motivators only for those students who believe that they have a chance to receive the rewards if they put forth reasonable effort. With students who lack such self-efficacy perceptions, rewards will not be effective and may even backfire by causing depression or resentment. Therefore, to ensure that rewards act as incentives for everyone and not just the high-ability students, it will be necessary to ensure that everyone has equal (or at least reasonable) access to the rewards.

Structure Appropriate Competition

The opportunity to compete for prizes or recognition can add incentive and excitement to classroom activities. Such competition may be either individual (students compete against everyone else) or group (students are divided into teams that compete with one another). In addition to structuring competition based on test scores or other performance measures, it is possible to build competitive elements into ordinary instruction by including activities such as argumentative essays, debates, or simulation games that involve competition (Keller, 1983).

Two important qualifications need to be kept in mind by teachers who consider using competition as a motivational strategy. First, competition is even more salient and distracting than rewards for many students, so it will be important to depersonalize the competition and emphasize the content being learned rather than who won and who lost. Second, competition will be motivating only to students who have a good (or at least an equal) chance of winning. To ensure this, it will be necessary to use team competition in which teams are balanced by ability profiles or individual competition in which a handicapping system has been developed to equalize everyone's opportunity to win. Team approaches are more desirable because they can be

structured so that students cooperate in addition to competing (members of the same team help one another learn in preparation for competing against members of other teams). See Slavin (1983) for more information about such team learning approaches.

Call Attention to the Instrumental Value of Academic Activities

Because much has been written about rewards and competition as extrinsic incentives, and because most teachers are familiar with these techniques, no more will be said about them here. However, we do wish to call attention to a third strategy for supplying extrinsic motivation: calling students' attention to the applications of knowledge and skills taught in school to their lives outside of school (especially applications that will help them cope with the demands of living in our society). When possible, note that the knowledge or skills developed by a task will be useful in enabling students to meet their own current needs, in providing them with a "ticket" to social advancement, or in preparing them for occupational success or success in life generally. Better yet, cite concrete examples by relating personal experiences or telling anecdotes about individuals with whom the students can identify (famous people that they look up to, former students from the same school, or individuals with whom they are already familiar).

This strategy is probably not used as often as it could be, and when it is used, it is often used in self-defeating ways. Rather than stress the positive by identifying the present or future application value of what is being learned, many teachers stress personal embarrassment ("You don't want people to think that you are ignorant") or future educational or occupational disasters ("You'll never get through sixth grade," "How are you going to get a job if you can't do basic math?"). Other teachers use variations that cast

the student in a more positive light but portray society as a hostile environment ("Learn to count so that merchants don't cheat you," "Learn to read so that you don't get taken when signing a contract.")

Therefore, besides forewarning your students that certain knowledge and skills will be needed in the future at school and making them aware that most desirable occupations require at least a high school diploma, help them to appreciate the more specific applications of what they are learning at school. Basic language arts and mathematics skills are used daily when shopping, banking, driving, reading instructions for using some product, paying bills and carrying on business correspondence, and planning home maintenance projects or family vacations. General knowledge is useful for everything from coping effectively with minor everyday challenges to making good decisions in emergency situations. Knowledge of history and related social studies topics is useful for everything from voting on local issues to determining national policy (as several U.S. Presidents have acknowledged). In general, a good working knowledge of the information, principles, and skills taught in school prepares people to make well-informed decisions that result in saving time, trouble, expense, or even lives, and it empowers people by preparing them to recognize and take advantage of the opportunities that society offers. These benefits of schooling are well recognized and highly prized in societies in which education is still a privilege rather than a right, but they tend to go unrecognized or be taken for granted in societies like ours in which education for the masses is not only available but required. Do what you can to rekindle this appreciation in your students by helping them to see academic activities as enabling opportunities to be valued rather than as imposed demands to be resisted.

Concluding Comments About Extrinsic Motivational Strategies

Extrinsic motivational strategies can be effective under certain circumstances, but teachers should not rely on them too heavily. If students are preoccupied with rewards or competition, they may not pay as much attention as they should to what they are supposed to be learning and may not appreciate its value. The quality of task engagement, and ultimately the quality of achievement, is highest when students perceive themselves to be engaged in tasks for their own reasons (intrinsic motivation) than when they perceive themselves to be engaged in order to please an authority figure, obtain a reward, escape punishment, or respond to some other extrinsic pressure (Deci & Ryan, 1985; Lepper, 1983). More specifically, if students perceive themselves as performing tasks solely to obtain a reward, they will tend to adopt a "piecework mentality" or "minimax strategy" in which they concentrate on maximizing rewards by meeting minimum standards for performance (and then moving on to something else) rather than doing a high-quality job (Condry & Chambers, 1978; Kruglanski, 1978). As a result, they may write 300-word essays containing exactly 300 words or read only those parts of a text that they need to read to answer the questions on an assignment. You can maximize the risk of encouraging students to develop such undesirable attitudes by following the guidelines in Table 1, but even so, bear in mind that even effective use of motivational strategies will not help students to value academic activities. The latter will require strategies that capitalize on existing intrinsic motivation or that stimulate students' motivation to learn.

Strategies for Capitalizing on Existing Intrinsic Motivation

The intrinsic motivation approach calls for teachers to select or design academic activities that students will engage in willingly because they incorporate content that the students are already interested in or activities that the students enjoy. Teachers' opportunities to capitalize on students' existing intrinsic motivation are limited by several features inherent to the nature of schooling described at the beginning of the chapter (attendance is compulsory, the curriculum is prescribed externally rather than chosen by the student, mistakes may lead to public embarrassment, and teachers must assign grades and enforce school rules in addition to assisting students' learning efforts). Furthermore, students differ from one another in the topics they find interesting and the activities they find enjoyable. Even so, teachers can sometimes take advantage of students' existing intrinsic motivation by selecting or designing classroom activities that incorporate elements that most, if not all, students will find rewarding. Several such elements are discussed in the following sections.

Adapt Tasks to Students' Interests

Whenever particular curriculum objectives can be accomplished using a variety of examples or activities, take advantage of the opportunity to incorporate content that the students find interesting or activities that they find enjoyable. For example, people, fads, or events that are currently prominent in the news or the youth culture can be worked into everyday lessons when giving examples or applications of the concepts being learned. We observed a history teacher doing this by pointing out that the Ark of the Covenant mentioned in the ancient history text was the same ark featured in the movie Raiders of the Lost Ark. Similarly, a geography teacher sparked

student interest in studying the coordinates (latitude and longitude) by pointing out that the sunken remains of the Titanic can easily be located again, even though they lie on the ocean floor hundreds of miles out to sea, because the discoverers fixed the location precisely using the coordinates.

Another way to adapt school activities to student interest is to offer the students choices of alternative tasks or opportunities to exercise autonomy in selecting among alternative ways to meet requirements. Most written composition assignments and many research projects, for example, can be adapted to student interests by allowing students to choose topics or at least by taking their known interests into account when assigning topics. If the students might make undesirable choices if left completely on their own, provide them with a menu of choices to select from or require them to get your approval of their choices before going ahead.

Finally, you can incorporate students' interests into your activities by making it clear that you encourage student comments and questions about the topic and by asking questions or making assignments that invite the students to state opinions, make evaluations, or in some other way to respond personally to the content. Relevant student-initiated questions and comments provide "teachable moments" that wise teachers take advantage of by temporarily suspending the planned sequence of events in order to pursue the issue raised by the student. The fact that the question was asked or the comment was made guarantees interest on the part of the student who voiced it, and the chances are that this interest will be shared by many of the other students as well. Thus, it is worth taking time to respond to relevant student comments and questions. Furthermore, classroom research indicates that this teacher behavior is associated both with higher achievement gains

elicited from the students and with higher scores on measures of student enjoyment of the subject matter, the class, and the teacher.

It is also helpful, from both instructional and motivational points of view, to see that your questions and assignments cover both basic factual knowledge and include divergent questions and opportunities for students to express opinions or make other personal responses to the content. For example, after reviewing the basic facts about the Christians and the lions, the gladiators, and other excesses of the Roman circuses, a history teacher that we observed began asking the students why they thought such practices had developed in Roman society, how otherwise cultured people could take pleasure in such cruelty, and other similar questions. This led to a very productive discussion in which students made contributions and developed insights about such issues as violence in sports and in contemporary society generally, the role of peer pressure in escalating aggression once a conflict flares up, and the difference between desirable enjoyment of pleasures and undesirable indulgence in excesses. The same teacher, after reviewing the facts of life in Athens and Sparta, asked the students which city they would rather live in, and why. Again, this led to a lively discussion which included parallels among modern nations and contrasted societies that place heavy priority on building up military strength (at a cost in quality of civilian life) with societies that have more balanced sets of priorities.

Plan for Novelty and Variety

Students faced with the same routines and the same types of tasks each day will soon become bored. Therefore, try to make sure that something about each task (its form, its content, the media involved, or the nature of the responses that it demands) is new to the students or at least different from

what they have been doing recently. Remember, a steady diet of routine and predictable lessons followed by routine and predictable assignments soon becomes "the daily grind."

When introducing a novel activity to the students, call attention to its new or different elements and take the opportunity to state that you expect them to find the activity particularly interesting, challenging, or enjoyable.

Provide Opportunities for Students to Respond and to Receive Feedback

Most students prefer activities that allow them to respond actively--to interact with the teacher or with one another, to manipulate materials, or in some other way to respond more actively than by merely listening or reading. This is one function of drill, recitation, discussion, boardwork, and seatwork activities. Ideally, however, students will often receive active response opportunities that go beyond the simple question-answer formats seen in typical recitation and seatwork activities in order to include projects, experiments, role play, simulations, educational games, or creative applications of what they have been learning. For example, language arts instruction should include dramatic readings and prose and poetry composition; mathematics instruction should include problem-solving exercises and realistic application opportunities; science instruction should include experiments and other applications or laboratory work; social studies instruction should include debates, research projects, and simulation exercises. Such activities allow students to feel that school learning involves doing something, not just having something done to them.

Students particularly enjoy tasks that allow them to respond actively and to receive immediate feedback that can be used to guide subsequent responses. Such feedback features are among the reasons for the popularity of computer

games and other pastimes featured in arcades (Malone & Lepper, in press). Automatic feedback features are built into many educational toys and Montessori materials used in preschools and kindergartens and into programmed learning materials and other "self-correcting" materials used in elementary and secondary classrooms. The same is true for computerized learning programs that allow students to respond actively and then receive immediate feedback.

You can also build feedback features into more typical classroom activities. You can provide such feedback yourself when leading the class or a small group when going through an activity or when circulating to supervise progress during seatwork times. At times when you are less available for immediate response (such as when you are teaching a small group and the rest of the students are working at their seats), you can still arrange for students to receive feedback by consulting answer keys, by following instructions about how to check their work, by consulting with an adult volunteer or appointed student helper, or by reviewing and discussing the work in pairs or small groups.

Feedback motivates by providing immediacy and impact to activities. In contrast, it can be boring for students to work through long seatwork assignments without receiving feedback regarding their responses, and they may even be "practicing errors" without realizing it. Even if the work is carefully corrected and good feedback is received a day or two later, the "now" impact of the feedback will be lacking.

Psychologically, most students find it much more difficult and less rewarding to go back and try to relearn something that "we did already" than to respond to immediate feedback when learning something for the first time. Therefore, you should avoid placing your students in the position of having to

respond for lengthy periods of time without knowing whether or not their responses are correct. There are three basic ways to accomplish this: (a) Where possible, design or select activities that build in opportunities to make responses and receive immediate feedback; (b) for other activities, give complete instructions and work through plenty of practice examples to enable the students to evaluate the correctness of their responses on their own for the most part; and (c) rather than leave students on their own, circulate during seatwork times to supervise progress and provide immediate feedback and help to those who need it.

Among activities that allow for active response with immediate feedback, students are especially likely to enjoy activities that allow them to create a finished product. Industrial psychologists have shown that workers enjoy jobs that allow them to create a product they can point to and identify with more than they enjoy jobs that do not yield tangible evidence of the results of their labor. It seems likely that students will respond similarly to academic tasks; that is, they are likely to prefer tasks that have meaning or integrity in their own right over tasks that are mere subparts of some larger entity and are more likely to experience a satisfying sense of completion or accomplishment when they finish such tasks. Ideally, task completion will yield a finished product that the students can use or display (a map, diagram, or some other illustration, an essay report, a scale model, a completed puzzle, or something other than another ditto or workbook page).

Incorporate "Fun Features"

Most academic activities can be planned to incorporate certain features that most students find enjoyable. Three of these are fantasy or simulation features, game-like features, and opportunities to interact with peers.

Where more direct applications of what is being learned are not feasible, you can introduce fantasy or imagination elements that will engage students' emotions or allow them to experience events vicariously. In studying poems or stories, you can tell students about the authors' motives in writing the poems or stories or about formative experiences in the authors' lives that led to these writings. In studying scientific or mathematical principles and methods, you can tell students about the practical problems that needed to be solved or the personal motives of the discoverers that led to the development of the knowledge or skills being taught. Or you can set up role play or simulation activities that allow students to identify with real or fictional characters or to deal with academic content in direct, personal ways. Rather than simply assign the students to read history, for example, you can make history come alive by arranging students to role play Columbus and his crew debating what to do after 30 days at sea or have them take the roles of the American, British, and Russian leaders meeting at Yalta.

Simulation exercises include, but are not confined to, full-scale drama, role play, simulation games, and other "major productions." Other, more modest simulation exercises can be incorporated into everyday instruction. These include brief simulation exercises or invitations for students to bring fantasy or imagination to expand their thinking about the content they are learning. In teaching a particular mathematical procedure, for example, you might ask students to name problems that come up in everyday living that the procedure might be useful to help solve (and then list these on the board). We observed a history teacher bring ancient history alive by having students describe what facilities they would expect to find in a visit to an ancient Roman bath, and we saw a geography teacher "bring home" material about the

Soviet Union by asking students to imagine and talk about what it would be like to seek housing in a country in which the government owned all of the property and to acquire accurate information about world events in a country in which the government controlled all of the media. Such brief fantasy or simulation exercises do not take much time or require special preparations, but they can be quite useful to stimulate students to relate to the content more personally and to take greater interest in it.

Practice and application activities for almost any kind of content can be presented as games or structured to include features typically associated with games or recreational pastimes (Keller, 1983; Malone & Lepper, in press). With a bit of imagination, ordinary seatwork assignments can be transformed into "test yourself" challenges, puzzles, or brain teasers. Some of these kinds of activities involve clear goals but require the students to solve problems, avoid traps, or overcome obstacles to reach the goals (e.g., exercises that call for students to suggest possible solutions to science or engineering problems or to find a shortcut that will substitute for a tedious mathematical procedure). Other such activities challenge the students to "find the problem" by identifying the goal itself in addition to developing a method for reaching the goal (many "explore-and-discover" activities follow this model). Some game-like activities involve elements of suspense or hidden information that emerges as the activity is completed (puzzles that convey some message or provide the answer to some question once they are filled in). Other such activities involve a degree of randomness or some method of inducing uncertainty about what the outcome of one's performance is likely to be on any given trial (knowledge games that cover a variety of topic areas at

a variety of difficulty levels that are assigned according to card draws or dice rolls--Trivial Pursuit is an example).

Note that most of these game-like features involve presenting intellectual challenges appropriate for use by individual students or groups of students working cooperatively. This is mentioned to call attention to the fact that the term "game-like features" is intended to have a much broader meaning than the typical meaning of the term "games," which most teachers associate specifically with team competitions. There is reason to believe that the game-like features described above are likely to be less distracting from curriculum objectives and more effective than competitive games in promoting student motivation to learn, especially when competitive games emphasize speed and memorized facts rather than integration or application of knowledge.

Most students enjoy activities that allow them to interact with their peers. You can easily build peer interaction opportunities into whole-class activities such as discussion, debate, role play, or simulation. In addition, you can plan follow-up activities that allow students to work together in pairs or small groups to tutor one another, discuss issues, develop suggested solutions to problems, or work as a team preparing for a competition, participating in a simulation game, or producing some group product (a report or a display, for examples).

Peer interactive activities are likely to be most effective if (a) they are sufficiently structured around curriculum objectives to make them worthwhile learning experiences rather than mere occasions for socializing and (b) conditions are arranged so that every student has a substantive role to play and must participate actively in carrying out the group's mission,

rather than so that one or two assertive students can dominate the interaction and do all the work while others watch (see Slavin, 1983 and Slavin et al., 1985 for more information about peer interactive and cooperative learning activities).

Concluding Comments About Intrinsic Motivational Strategies

Schooling should be as enjoyable as possible for both teachers and students. Therefore, whenever curriculum objectives can be met through a variety of activities, wise teachers will emphasize activities that students find rewarding and avoid activities that they find boring or aversive. However, two important limitations on what can be accomplished through intrinsic motivational strategies should be kept in mind.

First, your opportunities to use intrinsic motivational strategies in the classroom are limited. You must teach the whole curriculum, not just the parts that appeal to the students, and you must teach factual knowledge and basic skills in addition to higher level objectives. Opportunities to provide choice or game-like features are limited. Thus, even if you make optimal use of these intrinsic motivational strategies, your students will still be in school rather than in a recreational setting, and all of the constraints that are built into the teacher and student roles will still be in place. Learning will often be enjoyable, but it will still require concentration and effort. It will not be "fun" of the sort implied by a visit to an arcade or an amusement park.

Second, although intrinsic motivational strategies should increase students' enjoyment of classroom activities, they will not in any direct way increase the students' motivation to learn the content or skills being taught. Therefore, as is the case with extrinsic motivational strategies, intrinsic

motivational strategies will need to be supplemented with strategies for stimulating motivation to learn (described in the next section). Otherwise, the students may enjoy classroom activities but fail to derive the intended knowledge or skills from them.

In this connection, it is worth noting that our colloquial language for discussing intrinsic motivation is misleading. We commonly describe certain topics or tasks as "intrinsically interesting" and speak of engaging in activities "for their own sake." Taken literally, such language implies that motivation resides in activities rather than in people. In reality, people generate intrinsic motivation; it is not somehow built into topics or tasks. We study or do something not for <u>its</u> sake, but for <u>our</u> sake--because it brings us pleasure, meets our needs, or in some other way provides desirable stimulation or satisfaction. We all have our own amounts and patterns of intrinsic motivation, developed in response to our experiences and to the socialization we receive from significant others in our lives. In the case of motivation to learn academic knowledge and skills, teachers are important "significant others."

Therefore, rather than confining themselves to accommodating classroom activities to students' existing motivational patterns, teachers can think in terms of shaping those motivational patterns thrugh systematic socialization efforts designed to stimulate student motivation to learn the curriculum.

Strategies for Stimulating Student Motivation to Learn

The following strategies are recommended methods of going beyond manipulating student performance through extrinsic reward and punishment, and beyond using intrinsic motivational strategies which encourage students to engage in classroom activities because they enjoy them, in order to stimulate

students' motivation to learn (e.g., to stimulate the students to take academic activities seriously and attempt to acquire the knowledge or skills that these activities were designed to develop). The first three strategies are general ones that describe pervasive features of the learning environment that should be established in the classroom. They involve socializing students to understand that the classroom is primarily a place for learning and that acquiring and applying knowledge and skills are important contributors to quality of life (not just to report card grades).

General Modeling of Motivation to Learn

Throughout all of your interactions with your students, routinely model interest in learning: Let the students see that you value learning as a rewarding, self-actualizing activity that produces personal satisfaction and enriches your life. In addition to teaching what is in the textbooks, share your interests in current events and items of general knowledge (especially as they relate to aspects of the subject matter that you teach). Call attention to current books, articles, television programs, or movies on the subject. Also, call attention to examples or applications of subject matter knowledge in everyday living, in the local environment, or in current events.

"Modeling" here means more than just calling students' attention to examples or applications of concepts taught in school. In addition, it means acting as a model--sharing your thinking about such examples or applications so that your students can see how educated people use information and concepts learned in school to understand and respond to everyday experiences in their lives and to news about current events occurring elsewhere. Without being preachy about it, you can relate personal experiences illustrating how language arts knowledge enables you to communicate or express yourself

effectively in important life situations, how mathematical or scientific knowledge enables you to solve everyday household engineering or repair problems, or how social studies knowledge helps you to appreciate things you see in your travels or to understand the significance of events occurring in other parts of the world. You can also share insights or opinions about current events or questions that you are raising or predictions you are making about how current crises will be resolved. In general, let the students see that it is both stimulating and satisfying to understand (or even just to think or wonder about) what is happening in the world around us (see Good & Brophy, in press, for more information about modeling).

One teacher that we observed used modeling effectively in connection with an assignment involving reading about current events in the newspaper. He began by noting that he reads the editorial page of this newspaper regularly, finding that he sometimes agrees and sometimes disagrees with the editorials but, in either case, the material is always informative and thought provoking. He went on to discuss the newspaper's position and his own position concerning a forthcoming summit meeting of international leaders, noting that he was initially relatively uninformed about, uninterested in, and pessimistic about the likely outcome of this summit meeting, but that he had become more interested and more optimistic about it as he became better informed through reading the newspaper and watching news programs on television. This led to a stimulating discussion that clarified for the students and provoked many questions about the positions of the United States and the Soviet Union on major issues to be discussed at the summit meeting, the positions of the editorial writer, and the positions of the teacher. In addition, the teacher provoked further interest and curiosity from the students by noting that,

although he was sharing his own positions on the issues being discussed that day, he often deliberately withheld his positions on issues discussed in class to encourage the students to think for themselves and avoid inhibiting students who might disagree with him. Throughout the discussion he made references to aspects of the history and geography of the United States and the Soviet Union that helped shape their present rivalry as world leaders and their positions on issues to be discussed at the summit meeting. In addition, he communicated the pride and satisfaction he took in "feeling like an expert in world affairs" when he read articles or watched television programs on the summit meeting and realized that he had a good understanding of the issues and events involved. It is likely that this modeling increased his students' interest in and appreciation of the importance and usefulness of social studies concepts and information. In addition, it probably increased their interest in newspaper articles and television programs about current events, as well as providing them with a model to follow in reading those articles or responding to those programs in active, thoughtful ways.

Communicate Desirable Expectations and Attributions

Throughout all of your interactions with students, routinely project attitudes, beliefs, expectations, and attributions (statements about the reasons for students' behavior) that imply that your students share your own enthusiasm for learning. To the extent that you treat your students as if they already are eager learners, they will be more likely to become eager learners. Let your students know that you expect them to be curious, to want to learn facts and understand principles clearly, to master skills, and to see what they are learning as meaningful and applicable to their everyday lives.

Minimally, this means avoiding suggestions that students will dislike working on academic activities or will work on them only in order to get good grades. Preferably, it means treating students as active, motivated learners who care about their learning and are trying to understand (Good & Brophy, 1986, in press). One teacher we observed communicated positive expectations routinely by announcing at the beginning of the year that her class was intended to make the students into "social scientists" and by referring back to this idea frequently throughout the year through such comments as "Since you are social scientists, you will recognize that the description of this area as a tropical rain forest has implications about what kinds of crops will grow there," or "Thinking as social scientists, what conclusions might we draw from this information?" Another teacher frequently encouraged his students to

> read the material carefully and put it into your own words as you go along so that you will make sure you that you understand it. Then answer the questions that follow. Remember, if you really understand the material, you should not only be able to answer the questions correctly but also be able to explain why your answers are correct.

Minimize Students' Performance Anxiety

Motivation is likely to develop most fully in classrooms in which the students are goal-oriented but relaxed enough to be able to concentrate on the task at hand without worrying about whether or not they can meet performance expectations. You can accomplish this by making clear separations between instruction or practice activities designed to promote learning and tests designed to evaluate performance. Most classroom activities should be structured as learning experiences rather than as tests.

Where instruction or practice activities include test-like items (recitation questions, practice exercises), treat these as opportunities for

the students to work with and apply the material rather than as attempts to see who knows the material and who does not. If you expect students to engage in academic activities with motivation to learn (which implies a willingness to take risks and make mistakes), you will need to protect them from anxiety or premature concern about performance adequacy.

It is necessary, of course, to evaluate student performance and assign grades using tests or other assessment devices. Until that point in the unit, however, the emphasis should be on teaching and learning rather than on evaluation, and students should be encouraged to respond to questions and performance demands in terms of "Let's assess our progress and learn from our mistakes" rather than "Let's see who knows it and who doesn't." When possible, give students opportunities to correct their mistakes or improve their responses by rephrasing the question or giving a clue (i.e., do not give the answer or move on to someone else). If it is necessary to give the answer or elicit it from another student, be sure to include any explanation that may be needed to make sure the first student "gets the point" and understands why the answer is correct. Have students correct their mistakes on seatwork and homework assignments. In general, encourage your students to treat each question and performance demand as an opportunity to check their own understanding or apply what they are learning rather than as an opportunity to gain or lose points toward their grades. When necessary, you may also want to make statements such as "We're here to learn, and you can't do that without making mistakes," to caution students against laughing at the mistakes made by their peers, or to use the strategies for minimizing students' test anxiety that were described in an earlier section of the paper.

If you consistently implement these three general strategies, you will establish a learning environment in which student motivation to learn can flourish and you will subtly encourage students to develop such motivation to learn as a general trait. Then, when implementing particular academic activities, you can supplement these general strategies by using one or more of the following specific strategies for motivating students to learn the content or skills that a particular activity is designed to develop.

Project Intensity

Whenever you instruct, but especially when you present key explanations, you can use timing, nonverbal expressions and gestures, and cueing and other verbal techniques to project a level of intensity that tells students that the material is important and deserves close attention. An intense presentation might begin with a direct statement of the importance of the message ("I'm going to show you how to invert fractions--now pay close attention and make sure that you understand these procedures"). Then, you would present the message using verbal and nonverbal public speaking techniques that convey intensity and cue attention: a slow paced, step-by-step presentation during which you emphasize or underline key words, use unusual voice modulations or exaggerated gestures to focus attention on key terms or procedural steps, and scanning the group intensely following each step to look for signs of understanding or confusion (and to allow anyone with a question be be able to ask it immediately). In addition to the words you speak, everything about your tone and manner should communicate to the students what you say is important and that they should give it full attention and be prepared to ask questions about anything that they do not understand.

Projecting intensity through slower pacing, exaggerated cueing, and related theoretical techniques is an especially useful strategy when demonstrating procedures or problem-solving strategies (as opposed to giving or reviewing information only). Such demonstrations have built-in step-by-step structures that lend themselves to slow pacing punctuated by exaggerated cueing, and the first- or second-person language that is used in modeling or demonstrating procedures lends itelf more naturally to a high-intensity communication style than the third-person language typically used to communicate information.

You will have to "pick your spots" for deliberately using an intensive style, however, because you cannot be intense all the time, and even if you could, students would adjust to it so that it would lose much of its effectiveness. Therefore, reserve special intensity for times when you want to communicate "This is important: pay especially close attention." Likely occasions for such intense communication would include introduction of important new terms or definitions, especially those likely to be confusing to the students; demonstration of procedures and problem-solving techniques, including instructions for how to do seatwork or homework assignments; instruction in concepts that the students are likely to find confusing or difficult; and instruction that requires eliminating presently existing misconceptions in addition to teaching new conceptions (and thus requires making students aware that, even though they think they already understand the point at issue, their "knowledge" is in fact incorrect). Exaggerated intensity is less appropriate for more routine instructional situations, although teachers are well advised to slow down the pace and be extra alert for signs of confusion or student desire to ask a question whenever they are

covering new or complex material (Gambrell, 1983; Good & Brophy, 1986; Rowe, 1984; Swift & Gooding, 1983; Tobin & Capie, 1982).

Project Enthusiasm

Unless they are already familiar with the topic or assignment, students will look to you as the teacher for cues about how to respond to academic activities. Consciously or not, you model attitudes and beliefs about topics and assignments, and students pick up on these cues. If you present a topic or assignment with enthusiasm, suggesting that it is interesting, important, or worthwhile, your students are likely to adopt this same attitude (Bettencourt, Gillett, Gall, & Hull, 1983). In suggesting that you project enthusiasm, we do not mean pep talks or unnecessary theatrics. Instead, we mean that you would identify your own reasons for being interested in a topic or for finding it meaningful or important, and you would project these reasons to the students when teaching about the topic. Use dramatics or forceful salesmanship if you are comfortable with these techniques, but if not, low-key but sincere statements of the value that you place on a topic or activity will be just as effective to communicate your enthusiasm for it. Thus, a brief comment showing that a topic is food for thought or illustrating why it is interesting, unique, or different from previously studied topics may be sufficient. In short, the primary objective of projecting enthusiasm as a strategy for motivating students to learn is to induce the students to value the topic or activity rather than to amuse, entertain, or excite them.

One history teacher that we observed generated a great deal of enthusiasm (and also pulled together a great many concepts) by enthusiastically explaining to his students that during the Middle Ages, the Mediterranean was in effect the center of the world, Mediterranean seaports were major trade

centers, and places like England were outposts of civilization. All of this changed drastically with the discovery of the New World and the emergence of new centers of trade and culture. He demonstrated these issues with references to maps, reminders about the primary modes of transportation at the time, characterizations of the attitudes of the people and their knowledge about other countries and trade possibilities. Similarly, another teacher brought ancient Israel alive by elaborating enthusiastically on the textbook to tell his students about David as the slayer of Goliath and ancestor of Jesus, Abraham leading his people to the Promised Land, Solomon as a wise man and builder of the temple, and Moses as the man who presented the Ten Commandments and led the people out of the wilderness. This included location of Jerusalem, Israel, and the Sinai Peninsula on a map and speculation about whether the temple might be rebuilt in modern Jerusalem (noting that a major Moslem temple is located immediately next to the spot occupied by Solomon's Temple). In each of these cases, the teacher was able to parlay personal interest in the topic with detailed knowledge about the topic into an effective presentation that sparked interest and elicited many questions and comments from the students.

Induce Task Interest or Appreciation

Besides projecting intensity or your own personal enthusiasm, you can induce students' interest in or appreciation for a topic or activity by verbalizing reasons that the students should value it. If the topic or activity has connections with something that the students already recognize as interesting or important, these connections should be noted (such as the earlier mentioned connection between the Ark of the Covenant and Raiders of the Lost Ark). When the knowledge or skills to be taught have applications

for everyday living, these applications should be mentioned (especially applications that will allow the students to solve problems or accomplish goals that are important to them). You can also mention new or challenging aspects of the activities that the students can anticipate, especially interesting or exotic aspects.

For example, we observed a history teacher who motivated students to read about the ancient Greek legal system by noting that it was similar to our system in many ways except that it called for 501 jurors. A geography teacher motivated his students to study the map of Greece with interest and appreciation by explaining that no place in Greece was more than 40 miles from the sea and that the country's jagged contours gave it far more coastline than most other countries, including much larger ones.

Induce Curiosity or Suspense

You can stimulate curiosity or suspense in your students by posing questions or constructing "set-ups" that make them feel the need to resolve some ambiguity or obtain more information about a topic. To prepare them to read about the Soviet Union, for example, you could ask your students if they know that Russia is just a part of the Soviet Union, what the term "Iron Curtain" means, how many time zones there are in the Soviet Union, or how the United States acquired Alaska. Such questions help transform one more reading assignment into an interesting learning experience by encouraging students to make connections between the information they will acquire and the information they already know (or think they know). Furthermore, by inducing curiosity or suspense, such questions make the new information food for thought rather than merely more material to be memorized. Most students will think that Russia is another name for the Soviet Union, and will be curious to find out the

difference once they have been alerted to the fact that a difference exists. Most students will have heard the term "Iron Curtain" but will not have thought actively about it, and they will become curious to learn more about it when stimulated to think about it in interesting ways (Is there an actual curtain? Is it made from iron? If not, why is the term used?). Similarly, most students will be amazed to discover that the Soviet Union encompasses 11 time zones and that the United States purchased Alaska from Russia. These are just four basic facts found in most treatments of the history or geography of the Soviet Union. Whether or not students find these facts (or a great many others that could have been mentioned) interesting and will think actively about them rather than merely try to memorize them will depend largely on the degree to which their teachers stimulate curiosity and provide a context for thinking about associations between these facts and existing knowledge or beliefs. This is another illustration of the point made earlier that interest value does not reside in topics or activities--interest resides in people.

You can encourage your students to generate such interest by (a) asking them to speculate or make predictions about what they will be learning; (b) raising questions that successful completion of the activity will enable them to answer; (c) where relevant, showing them that their existing knowledge is not complete enough to enable them to accomplish some valued objective, that their knowledge is internally inconsistent or inconsistent with new information, or that their present knowledge exists in scattered form but could be organized around certain general principles or powerful ideas (Malone & Lepper, in press). More generally, you can put your students into an active information-processing or problem-solving mode by posing interesting questions or problems that the activity will address (Keller, 1983).

Induce Dissonance or Cognitive Conflict

When the topic of a text is already familiar, students may think they already know everything that there is to know about it, and thus may read the material with little conscious attention or thought. You can counter this tendency by pointing out unexpected, incongruous, or paradoxical aspects of the content, by calling attention to unusual or exotic elements, by noting exceptions to general rules, or by challenging students to solve the "mystery" that underlies a paradox.

The school curriculum includes a great many "strange but true" phenomena, especially in mathematics and science. You can call attention to such phenomena and provoke students to begin asking themselves "How can that be?" Otherwise, students may treat the input only as more information to be absorbed without giving it much thought or even noticing the fact that it seems to contradict previously learned information. For example, you might introduce the topic of photosynthesis by noting that, although animals get their food from the environment, plants make their own food. You might introduce free verse by noting that "some poetry doesn't rhyme." Or, you might tell students that "with fractions, we multiply in order to divide."

We have observed several teachers using this strategy effectively. One teacher introduced a unit on the Middle Ages by telling students that they would learn about "our ancestors" who chose to remain illiterate and ignorant and who persecuted people who did not share their religion. Later he noted the Moslem advances in mathematics, medicine, and the construction of libraries, and then contrasted these with the illiteracy of most Christian kings and lords during the Middle Ages. Another teacher stimulated curiosity about the Persian Empire by noting that Darius was popular with the people he

conquered and by asking students to anticipate reasons why this might be so. Another teacher introduced a selection on the Trojan War by telling the students they would read about "how just one horse enabled the Greeks to win a major battle against the Trojans." Another teacher introduced a movie on the fall of the Roman Empire by saying, "Some say that the factors that led to the decay of the Roman Empire are presently at work in the United States--as you watch the film, see if you notice parallels."

Make Abstract Content More Personal, Concrete, or Familiar

Definitions, principles, and other general or abstract input may have little meaning for students unless you make it more concrete or visual for them. One way to accomplish this is to promote personal identification with the content by relating experiences or telling anecdotes illustrating how the content applies to the lives of particular individuals (especially individuals whom the students are interested in and likely to identify with). For example, we observed a history teacher read the students a brief selection about Spartacus in order to personalize a selection that they were to read about slavery in ancient times. When covering the crusades, this teacher gave particular emphasis to the Children's Crusade, noting that the children involved were "your age and younger" and that most of them died before this crusade eventually ended in failure. He also made poignant connections to contemporary Iran, where religion-based zeal is also causing pre-adolescents to volunteer to go to war. Another teacher brought the medieval guilds alive for her students by describing them in detail and soliciting the students' reactions to the fact that if they had lived during the Middle Ages, to become a journeyman they would have had to leave their homes as children and spend seven years apprenticed to a master craftsman.

You can also make abstractions concrete by showing objects or pictures or by conducting demonstrations. You can also help students to relate new or strange content to their existing knowledge by using examples or analogies that refer to familiar concepts, objects, or events. For example, we have observed teachers make the following connections: (a) the Nile River flooding and its effects on Egyptian customs compared to spring flooding in Michigan rivers and its effect on local customs; (b) the Washington Monument as a modern example of an obelisk; (c) three times the size of the Pontiac Silverdome as an example of the size of the largest Roman circus colosseums; (d) identifications of students in the class (or failing that, famous personalities) descended from the ancient peoples or the geographical areas studied; (e) linking of students' family names to the guilds (Smith, Tanner, Miller, Baker); (f) similarities in climate and potential for flower raising and dairy farming as reasons why the Dutch were drawn to the Holland, Michigan, area; (g) similarities in the customs associated with the Roman Saturn Festival compared to those associated with modern Christmas festivities; and (h) explanation of how the medieval social and political system worked by describing the local (rural central Michigan) area as part of the outlying lands surrounding a manor based in Lansing, which in turn would be under the protection of and would pay taxes to "the King of Detroit."

Sometimes the problem is not so much that the content would be too abstract or unfamiliar for the students to understand if it were explained sufficiently, but that the text simply does not provide enough explanation. For example, it is not enough to say that Russia stopped participating in World War I because "the revolution came and a new government was established." This brief statement does not supply enough details to enable

students to understand and visualize the events surrounding the Russian revolution. To make these events more understandable to the students, you would have to elaborate on the text by explaining why and (especially) how the Communists and others organized political and, eventually, military resistance to the Czar's regime, killed or expelled the Czar's family and key officials, and established a new government. Such elaboration on the text transforms the relatively meaningless statement that "the revolution came and a new government was established" into a meaningful statement that the students can explain in their own words because they can relate it to their prior knowledge and can visualize the events to which it refers. This will enable them to process the content actively instead of simply trying to memorize it.

As a teacher recently explained in an interview, good teachers look on texts as outlines to be elaborated on, not as the entire curriculum.

Induce Students to Generate Their Own Motivation to Learn

You can induce your students to generate their own motivation to learn by asking them to think about topics or activities in relation to their own interests or preconceptions. For example, you can ask the students to identify questions about the topic that they would like to get answered, to list their particular interests in the topic, or to note things that they find to be surprising as they read. Besides generating motivation in a particular situation, such exercises are useful for helping students to understand that motivation to learn must come from within themselves--that it is a property of the learner rather than the task to be learned (Ortiz, 1983).

State Learning Objectives and Provide Advance Organizers

Instructional theorists have shown that learners retain more information when their learning is goal-oriented and when they can structure the information to be learned around key concepts (Alexander, Frankiewicz, & Williams, 1979; Ausubel, Novak, & Hanesian, 1978; Mayer, 1979). Such theorists commonly advise teachers to introduce activities by stating their learning objectives (the knowledge or skills that the students should be able to display when they complete the activities successfully) and by providing advance organizers (statements of illustrations that characterize the activity in general terms so that the students will know what to expect and will be prepared to activate relevant background knowlege or learning strategies as they engage in it). Stating learning objectives and providing advance organizers are desirable strategies for motivational reasons as well. By calling attention to the nature of the task and the academic benefits that students should gain from engaging in it, learning objectives and advance organizers help students to establish a learning set to guide their responses to the task.

You can prepare your students to gain more from lectures, films, or reading assignments by clarifying what you want them to concentrate on or think about as they process the information. You may want to distribute a partially filled-in outline or study guide, for example, or to give specific guidelines about notetaking (Carrier & Titus, 1979; Kierwa, 1985; Ladas, 1980). If particular structuring devices have been built into the content (lists, generalizations followed by elaborations, comparison or contrast structures, historical narratives or other sequential descriptions, or presentations of rules followed by examples, questions followed by answers, or

concept definitions followed by examples and nonexamples of the concept), you could call the students' attention to these structural elements to increase the likelihood that the students would be able to use them as bases for organizing and remembering what they learn (Armbruster & Anderson, 1984). In general, to the extent that you can be clear about exactly how you want your students to approach an activity (to memorize verbatim vs. to get the gist and be able to explain it in their own words, degree of emphasis on specific facts vs. more general principles or applications, use of particular main ideas for organizing or interpreting the larger body of information), your students will be more likely to adopt the appropriate learning set and gain what you want them to get out of the activity.

Provide Informative Feedback

Feedback was discussed previously in connection with other aspects of student motivation, but it is mentioned briefly again here to underscore its importance as part of a systematic attempt to encourage students to engage in academic activities with motivation to learn. If students are to function as active learners, they will need opportunities to assess their progress in understanding content or mastering skills--in short, opportunities to make responses and get feedback. Therefore, as soon as possible after exposing them to information, you should give your students questions or assignments that will require them to restate the information in their own words, to show that they understand the input and can apply it successfully, or to summarize, integrate, or evaluate what they have learned. Such response opportunities and the feedback associated with them will motivate students' learning by reinforcing their sense of competence or efficacy (when learning has been successful) or by underscoring the need for further efforts (when it has not).

Model Task-Related Thinking and Problem Solving

The information-processing and problem-solving strategies that you use when thinking about curricular content and responding to academic tasks will be invisible to your students unless you make them overt and observable by modeling them. Therefore, when teaching particular content, and especially when demonstrating skills or problem solving strategies, do not tell the students what to do using the typical second- or third-personal language of instruction. In addition, model the process by showing the students what to do and by thinking out loud as you demonstrate. Include the thinking that goes into selecting the general approach to use, deciding on options to take at choice points, checking progress as you go along, and satisfying yourself that you are on the right track. Also, model recovery from false starts and from use of inappropriate strategies on occasion so that students can see how one can develop a successful strategy even when one is not sure about what to do at first (Diener & Dweck, 1978).

This kind of cognitive modeling (thinking out loud so that students can observe one's information-processing and problem-solving strategies) can be powerful both as an instructional device and as a way to socialize student motivation to learn; that is, in addition to modeling the particular strategies needed for the task at hand, cognitive modeling is a way to show students what it means to approach a task with motivation to learn by modeling some of the general beliefs and attitudes associated with motivation (patience, confidence, persistence in seeking solutions through information processing and rational decision making, benefiting from the information supplied by mistakes rather than giving up in frustration).

Modeling opportunities occur whenever an academic activity calls for use of some cognitive process or strategy. Among other things, this includes demonstrations of how to conduct scientific experiments, understand and develop ways to solve mathematics problems, identify the main ideas in paragraphs, develop a plan for conducting a research project or an outline for writing a composition, identify the moral of a story, induce general principles from collections of facts, deduce applications of general principles to specific situations, check your own understanding of content by trying to answer questions about it or paraphrase it into your own words, or find and correct your own errors (For more information on modeling as a motivational technique, see Good & Brophy, 1986, in press).

Concluding Comments About Strategies for Motivating Students to Learn

Contemporary learning theorists have shown that learning, and most especially the kind of cognitive learning emphasized at school, is not mere response to stimulation. Nor is teaching mere infusion of knowledge into a vacuum. Learning involves actively processing input and making sense of it by relating it to existing knowledge, ideally in ways that involve transformation of the input into the student's own terms and retention in a form that makes it easily accessible for retrieval or application. Similarly, ideal teaching involves not only presenting input to students but helping them to be able to process the input using generative learning strategies (Weinstein & Mayer, 1986) for processing the input actively, relating it to their existing knowledge, putting it into their own words, and making sure that they understand it. In the classroom context, motivating students to learn means first stimulating them to take an interest in and see the value of what they are learning, and then providing them with guidance about how to go about

learning it. Although strategies can be separated for purposes of analysis, in practice, strategies for effectively motivating students to learn are closely intertwined with strategies for planning and implementing effective instruction generally.

Consequently, the motivational strategies described in this chapter will be most effective if used in conjunction with instructional strategies designed to teach students to be aware of their goals during task engagement, to monitor the strategies that they use to pursue these goals, to note the effects of these strategies as they are employed, and to monitor their subjective responses to these unfolding events. Ideally, then, students will be motivated to learn and be armed with cognitive strategies for doing so, and they will be able to maintain metacognitive awareness of what they are doing as they do it, so as to be able to monitor their progress and adjust their strategies if necessary. For information about cognitive and metacognitive strategy training with students, see Baker and Brown, 1984; Book, Duffy, Roehler, Meloth, & Vavrus, 1985; Good & Brophy, 1986; McCombs, 1984; Palincsar & Brown, 1984; Paris, Cross, & Lipson, 1984; Roehler & Duffy, 1984; and Weinstein & Mayer, 1986.

Building Motivational Strategies Into Your Instructional Plans

When planning courses from scratch, you can apply the strategies discussed in this chapter by studying them and listing ways that they can be implemented in the process of teaching to the objectives to be included in the curriculum. More typically, however, you will be working with given curricula and materials and will need to incorporate the strategies into your instructional plans or adjust these plans as needed. Thinking about the following questions may be helpful for this purpose.

For All Activities

The following questions should be considered in planning for any academic activity.

Objectives. What are the curriculum and instructional goals of the activity? How do these translate into specific objectives for the students? (What will the students be able to do when they complete the activity? Why are they learning this information or skill? When and how will they use it?) Convey this information to the students through the learning objectives that you state when introducing the activity to them.

Advance organizers. Before getting into the activity itself, how can you characterize it for the students using familiar general terms that indicate the nature of the activity and provide the students with organizing concepts that subsume the more specific information to be presented? Such advance organizers should be communicated to the students (typically right before mentioning the learning objectives).

Interest/application/curiosity/suspense/dissonance. Does the activity produce information that the students are likely to find interesting or build skills that they are eager to develop? Does it contain unusual or surprising input? Can the content be related to current events or events in the students' lives? Are there ways to create dissonance by telling students about something surprising that they will learn through this activity and by inviting them to speculate about how it could be true? Are there ways to stimulate curiosity or create suspense by posing interesting questions? Whenever the answer to one or more of these questions is "yes," capitalize on the opportunity to induce student motivation to learn by creating interest, appreciation, curiosity, suspense, or dissonance when introducing the activity.

Listening and Reading Activities

Consider the following questions when planning activities that require students to attend to an oral presentation, watch a visual presentation, or learn by reading.

Enthusiam. What is your personal response to the content? What do you find interesting or noteworthy about it? What aspects are particularly important, and why? Your answers to these questions represent your own enthusiasm about the subject and should be communicated to the students during your presentation.

Personalization. Are there personal experiences that you can relate or artifacts that you can display that are related to the content? Are you aware of content-related anecdotes about the experiences of others or about how the knowledge was discovered? Including these personalized aspects should spice up the presentation.

Variety in cognitive level. Does your presentation contain sufficient variety in the cognitive levels of information communicated and the types of response demanded? Ordinarily, the presentation should not be confined to facts and terms for students to memorize. It should include attention to skills or applications as well as analysis, synthesis, or evaluation of the content.

Provision for active response. What is the anticipated length of the presentation? If it appears that there will be too much uninterrupted lecture, plan to break up the presentation by asking questions, initiating discussion, or allowing time for students to take notes or respond to a study guide or brief assignment.

Preparing the students to process the information. How should the students respond to the presentation or text? Should they take notes or underline key ideas? Should they keep particular issues or questions in mind as they listen or read? Should they be given a set of questions, a partially filled in outline, or a study guide to respond to while listening or reading? Are there particular organizational structures that the students can recognize and use in learning from the presentation or text (lists, generalizations followed by elaborations, compare/contrast structures, historical narratives or other sequential descriptions, description of wholes followed by descriptions of each of the parts, presentations of rules followed by examples, questions followed by answers, or concept definitions followed by examples and nonexamples of the concept)? To the extent that you want students to do something more specific than pay attention and try to get the most they can out of the experience, tell them specifically what you want them to do, and if necessary, help by supplying questions, outlines, study guides, or information about how the material is organized.

Problem prevention. Is there some key point that the students might easily miss if not forewarned? Does the presentation or text contain abstractions that will not be meaningful to the students without additional explanation or concrete examples? Does the material contain concepts that the students may have trouble with because they are subtle or difficult because they are not well explained in the text or because they conflict with the students' personal experiences or expectations? If so, you may want to adjust your presentation to allow for extra attention to these trouble spots or to prepare students for film watching or text reading by making sure that they have the prerequisite knowledge they will need to gain the intended benefit from the film or text.

For Activities Requiring Active Response

Consider the following questions when planning activities or assignments that require students to do something more active than listen or read (for example, answer questions, prepare a report, work on a project).

A learning experience, not a test. How can you make sure that the activity is seen as an opportunity to apply knowledge or develop skill rather than as a test (unless it is a test)? When and how might you encourage students to ask questions and seek whatever information or help they may need to clear up confusion and perform acceptably?

Modeling. Does the activity demand new or complex responses that should be modeled for the students? If so, work through several examples by thinking out loud as you perform each step, explaining any information gathering or decision making that is involved and including explanation of the rationales for actions in addition to demonstrating the actions themselves. In addition to modeling ideal performance (making all the right decisions and moving through the task smoothly), model hypothesis-testing strategies (considering two or more alternatives at a choice point and selecting the correct one after reasoning or brief experimentation) and troubleshooting or repair strategies (discovering that you have selected an inappropriate strategy or made some other mistake and using rechecking or logical reasoning approaches to identify and correct the problem). In general, to the extent that successful performance depends on effective planning, thinking, decision making, or covert problem solving, make sure that you model these mental processes for the students in addition to demonstrating more overt responses.

Feedback. When, how, and from whom will the students get feedback on their performance? What should they do if they do not understand a question

or are not sure about how to begin a response? What should they do when they think they are finished? Try to arrange the activities so that students can get the feedback they need when they need it.

Metacognitive awareness. What can you do to ensure that students will monitor and correct the strategies that they use to respond to the activity? Good modeling is probably the most important factor here. In addition, though, it is helpful to remind students to pay attention to the strategies they use (when giving your initial instructions) as well as to ask questions about these strategies (when providing help or giving feedback). It is also helpful if your instructions and feedback reinforce what you have told the students about learning objectives. Help students keep in mind that the point of the activity is to help them understand or apply knowledge or skills, not merely to produce correct responses to a particular set of questions.

Conclusion

Although it cannot be taught directly as a concept or skill can be taught, student motivation to learn academic content and skills can be developed by teachers who systematically socialize their students using the strategies presented above as part of a larger package of curriculum and instruction that is also effective by other criteria. The list presented here is not complete; undoubtedly further research will identify new strategies and additional qualifications on the use of strategies already described. Nevertheless, the present list makes a good "starter set" of strategies to select from in planning motivational elements to be included in your instruction. In particular, the list serves as a reminder that students need not only to be given incentives for good performance and activities that they will enjoy as much as possible but also to be motivated to learn the knowledge and skills being taught.

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